

AGE AS A FACTOR IN THE METABOLISM OF NICOTINE

EUR J DRUG METAB PHARMACOKINET 1(3): 51-58; 1978

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PURPOSE: THE EFFECTS OF AGE, SMOKING AMOUNT, SEX, AND URINARY VOLUME AND PH ON NICOTINE METABOLISM ARE INVESTIGATED.

METHODS: URINARY COTININE, NICOTINE, AND NICOTINE-1'-N-OXIDE LEVELS WERE MEASURED OVER A 24-HR PERIOD OF NORMAL SMOKING AND EATING IN 47 MALE AND 38 FEMALE SMOKERS, AGED 15-74 YR, AND WERE CORRELATED WITH DATA ON SUBJECTS' AGE, SEX, SMOKING AMOUNT, AND URINARY VOLUME AND PH. SUBJECTS' SMOKING STATUS WAS ESTABLISHED AS LIGHT, MODERATE, OR HEAVY BASED ON RESPECTIVE SMOKING AMOUNTS OF LESS THAN 15, 15-40, OR MORE THAN 40 CIGARETTES PER DAY.

FINDINGS: THE RATIO OF URINARY COTININE TO NICOTINE-1'-N-OXIDE "WHICH CAN BE DESCRIBED AS AN INDIVIDUAL'S INDEX TO THE ALTERNATE ROUTES OF OXIDATIVE METABOLISM OF NICOTINE," DECREASED WITH INCREASING AGE. URINARY PH WAS ALSO SIGNIFICANTLY RELATED TO THE COTININE/NICOTINE-1'-N-OXIDE RATIO; HOWEVER, NO SIMILAR CORRELATIONS WERE SEEN FOR SMOKING AMOUNT, SEX, OR URINARY VOLUME. MEAN DAILY EXCRETION OF BOTH COTININE AND NICOTINE-1'-N-OXIDE INCREASED IN RELATION TO SMOKING AMOUNT.

DISCUSSION: "THE DECREASES IN THE RATIO OF COTININE TO NICOTINE-1'-N-OXIDE WITH INCREASING AGE OF THE SMOKER CAN BE EXPLAINED AS A CHANGE IN THE RELATIVE EFFECTIVENESS OF NICOTINE METABOLISM VIA THE ALTERNATIVE OXIDATIVE PROCESSES. WHETHER THIS RELATIONSHIP INDICATES A GENERAL REDUCTION IN METABOLISM BY ALPHA CARBON OXIDATION IN THE ELDERLY IS UNKNOWN, SINCE THE PRESENT STUDY HAS RELATIVELY FEW ELDERLY SUBJECTS AND IS LIMITED TO A STUDY OF NICOTINE."

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U JUNDI SHAPUR COLL MED TECH, AHWAZ, IRAN/
U LOND CHELS COLL, LONDON, UK

CLINICAL STUDY, METABOLIC STUDY, HUNDRED, MALE FEMALE DATA, CIGARETTE
SMOKING, AGE FACTORS, METABOLISM CHANGES, NICOTINE METABOLISM,
NICOTINE METABOLITES RATIO CHANGES, SMOKING METABOLIC EFFECTS, NICOTINE
METABOLIC EFFECTS, NICOTINE METABOLISM URINARY PH ASSOC, NICOTINE
METABOLISM SMOKING AMOUNT NONASSOC, NICOTINE OXIDE, PH FACTORS, SEX
FACTORS, URINARY VOLUME, CIGARETTE SMOKE NICOTINE, URINARY COTININE
SMOKING AMOUNT ASSOC, URINARY NICOTINE SMOKING ASSOC/
LIVER METABOLISM, MULTIPLE FACTORS INTERACTION, METABOLISM RATE,
NICOTINE OXIDATION, INDIVIDUAL VARIABILITY, OXIDATIVE METABOLISM,
MICROSOME ENZYMES, METABOLIC PATHWAYS, POPULATION SAMPLE SIZE CONCESSION,
POPULATION AGE STRUCTURE, DATA COMPARABILITY CONCESSION, URINARY
COTININE CONTENT, URINARY NICOTINE CONTENT, URINARY METABOLITES,
ENZYMES METABOLISM, NICOTINE EXCRETION, COTININE EXCRETION/
STATISTICAL ANALYSIS, URINARY EXCRETION RATE, QUESTIONNAIRES, REGRESSION
ANALYSIS, DRUG USE, DRUG METABOLISM CHANGES AGE FACTORS CAUSATION 1,
TISSUE ABSORPTION, CORRELATION COEFFICIENTS, SMOKING DURATION, SMOKING
ABSTINENCE, URINARY SPECIFIC GRAVITY, GAS LIQUID CHROMATOGRAPHY,
FLAVOPROTEIN, URINE SAMPLE, URINALYSIS, NICOTINE ABSORPTION, SMOKERS
CLASSIFICATION, URINARY EXCRETION INCREASE/
ENGLISH LANGUAGE, LONDON RESIDENCE, USA RESIDENCE, IRAN RESIDENCE,
AHWAZ RESIDENCE, GRANTOR UK CANCER RES CAMPAIGN, BRITISH DRUG HOUSES LTD.
AYERST McKENNA HARRISON LTD

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